Index of Authors

	PAGES
Abraham, E. P.	421–426
Acton, G. J.	367–377
Alexander, M.	453–455
Anderson, M. W.	51–57
Andersson, B.	709–711
Arinze, I. J.	717–719
Arnold, R. J.	229–232
Arron, G. P.	457–460
Ashcroft, S. J. H.	697–700
Augustine, S. L.	473–476
Badawy, A. A.-B.	165–168
Bainbridge, D. R.	619–626
Baldwin, J. E.	427–430
Balleisen, L.	683–687
Baron, P. G.	635–642
Bartholeyns, J.	133–141
Baty, J. D.	613–618
Baudhuin, P.	133–141
Baverel, G.	599–606
Benzie, C. R.	277–282
Bilton, R. F.	613–618
Bissell, D. M.	689–694
Bleaney, R. C.	421–426
Bolla, R.	669–674
Booth, I. R.	441–449
Boveris, A.	149–156
Bradford, N. M.	477–480
Brandenburg, D.	355–360
Brownsey, R. W.	23–32
Burdett, K.	245–251
Burk, T. L.	473–476
Bryan, F. T.	7–12
Cadenas, E.	45–50
Cannata, J. B.	409–419
Carnie, J. A.	107–112
Cataldi De Flombaum, M. A.	409–419
Cazzulo, J. J.	409–419
Chance, B.	149–156, 379–389, 555–563
Chaudhari, A.	51–57
Chiu, A. T.	7–12
Christie, M. R.	697–700
Chung, A.	713–716
Clark, D. G.	97–106, 501–507
Clark, J. B.	539–546
Cohen, R. D.	635–642
Cook, A. M.	453–455
Cooke, B. A.	33–38
Coolbear, T.	391–397
Cousins, R. J.	627–633
Cox, R. P.	39–44
Craig, R. K.	261–267
Damgaard, S. E.	73–81, 83–88, 89–95
Datema, R.	113–123
Dauchy, R. T.	185–188
Daughton, C. G.	453–455
Debanne, M. T.	399–407
De Loecker, W.	361–365
DeLuca, H. F.	491–499
Demain, A. L.	427–430
Denckla, W. D.	669–674
Denton, R. M.	23–32
Dickbuch, S.	575–579
Dingle, J. T.	177–180
Doberska, C. A.	253–260
Donaldson, M. K.	717–719
Duve, H.	221–227
Edelstein, S.	157–161
Edwards, G. E.	457–460
Eichner, R. D.	229–232
Eling, T. E.	51–57
Epstein, M.	713–716
Evans, M.	165–168
Evans, R. K.	675–681
Failla, M. L.	627–633
Fell, H. B.	177–180
Filipkowski, M.	149–156
Filsell, O. H.	501–507
Fisher, G. H.	713–716
Fleisch, H.	203–214
Fleron, P.	73–81
Fox, J. E. B.	651–661
Frasch, A. C. C.	409–419
Frayn, K. N.	323–330
Garland, P. B.	45–50
Garlick, P. J.	547–554
Gay, S.	683–687
Goh, E. H.	1–6
Gorin, E.	575–579
Gould, A. R.	215–219
Goyns, M. H.	607–612
Grant, D. A. W.	619–626
Griffiths, J. R.	173–176
Guenther, H. E.	203–214
Guenther, H. L.	203–214
Gupta, S.	367–377
Gutteridge, J. M. C.	469–472
Guzelian, P. S.	481–489
Hall, C.	465–468
Halliwell, B.	469–472
Hamada, S.	143–148
Hamilton, W. A.	441–449
Hansen, F. B.	125–131
Hara, H.	663–668
Haslam, R. J.	651–661
Hatton, M. W. C.	399–407
Hauser, P.	643–650
Heimberg, M.	1–6
Hembry, R.	177–180
Hemming, F. W.	391–397
Herchen, S.	427–430
Hermon-Taylor, J.	619–626
Hockin, L. J.	461–463
Holland, R.	193–202, 565–569
Horiuchi, N.	269–275
Hsueh, W.	345–354
Huddleston, J. A.	421–426
Hughes, W. A.	23–32
Hunt, N. A.	427–430
Hutton, J. C.	291–301, 303–311
Huybrechts-Godin, G.	643–650
Hwang, D. H.	701–704
Iles, R. A.	635–642
Illman, R. J.	97–106
Imura, H.	143–148
Isobe, K.	705–707
Itoh, S.	705–707
Jagus, R.	277–282
Janssens, J. Ph.	361–365
Jones, D. P.	709–711
Joseph, S. K.	477–480
Jubb, R.	177–180
Kauffman, F. C.	675–681
Kauss, H.	721–723
Kawade, N.	705–707
Kay, J. E.	277–282
Kelleher, J. K.	581–588, 589–597
Kelly, P. J.	581–588, 589–597
Kennedy, E. L.	253–260
Kilpatrick, D. C.	215–219
Kinsella, J. E.	701–704
Kitaoka, S.	189–192
Köhle, H.	721–723
Kondrup, J.	63–71, 73–81, 83–88, 89–95
Konomi, T.	427–430
Kuhn, C., III	345–354
Lazarus, N. R.	221–227
Legg, R. F.	461–463
Liao, S.	431–440
Liem, H. H.	689–694
Lim, L.	465–468
Lindh, L. M.	33–38
Livesey, G.	519–526
Lloyd, D.	149–156, 555–563
Loor, R.	431–440
Lord, J. T.	283–290
Lund, P.	599–606
Lundquist, F.	83–88, 89–95
Lutaya, G.	173–176
MacDonald, M. L.	473–476
Madhok, T. C.	491–499
Magee, A. I.	619–626
Mai, J.	701–704
Malaisse, W. J.	291–301, 303–311
Martin, B. R.	253–260

	PAGES
Martin, L.	509–517
Martin, L. C.	713–716
März, L.	399–407
Mason, A. N.	613–618
Matsumoto, T.	269–275
Mavris-Vavayannis, M.	107–112
Maycock, P. F.	323–330
McGivan, J. D.	477–480
McManus, T. T.	571–574
Meeks, D.	619–626
Mellor, A.	261–267
Metcalfe, J. C.	253–260
Meyer, M. S.	157–161
Mezzetti, G.	431–440
Miller, M.	125–131
Mitchell, W. J.	441–449
Mookerjea, S.	391–397
Morelos, B. S.	233–244
Mowbray, J.	527–538
Mudd, J. B.	565–569, 571–574
Muller-Eberhard, U.	689–694
Nagel, W. O.	185–188
Nakamura, H.	143–148
Nakano, K.	663–668
Nicholls, P.	125–131
Needleman, P.	345–354
Newsholme, E. A.	313–322
Niemeyer, R. E.	7–12
Noff, D.	157–161
Nowack, H.	683–687
Ogata, E.	269–275
Onishi, S.	705–707
Orrenius, S.	709–711
O'Sullivan, J.	421–426
Paine, A. J.	461–463
Palacois-Romero, R.	527–538
Parke, D. V.	509–517
Patel, M. S.	169–172
Patel, T. B.	539–546
Perera, P. A. J.	261–267
Petersen, L. C.	125–131
Poole, R. K.	379–389, 555–563
Punjani, N. F.	165–168
Quintart, J.	133–141
Radda, G. K.	547–554
Rahim, Z. H. A.	173–176
Reek, C.	245–251
Regan, C.	619–626
Regoeczi, E.	399–407
Reinke, L. A.	675–681
Reiter, R.	149–156
Richmond, R.	469–472
Roberts, S.	233–244
Rosenberg, H.	13–21
Roughan, P. G.	193–202, 565–569 571–574
Russell, L. M.	13–21
Ryan, J. W.	7–12, 713–716
Saggerson, E. D.	59–62
Saklatvala, J.	177–180
Sallis, J. D.	181–184
Sauer, L. A.	185–188
Say, A. K.	651–661
Schultz, D. R.	7–12
Schwartz, R. J.	331–343
Schwarz, R. T.	113–123
Seeley, P. J.	547–554
Segura, E. L.	409–419
Sener, A.	291–301, 303–311
Shimazawa, E.	269–275
Shimp, J.	701–704
Sivarajah, K.	51–57
Slack, C. R.	193–202, 565–569 571–574
Smith, A. E.	261–267
Smith, D. G.	107–112
Smith, K. T.	627–633
Smith, R. G.	331–343
Sönksen, P. H.	355–360
Sooranna, S. R.	59–62
Spalding, M. H.	457–460
Stein, J. M.	253–260
Stewart, J. M.	713–716
Storer, G. B.	97–106
Suda, T.	269–275
Sugiyama, S.	705–707
Swick, R. W.	473–476
Swisher, R. W.	481–489
Symons, A. M.	509–517
Takahashi, H.	269–275
Takahashi, N.	269–275
Taylor, P.	399–407
Tenneson, M. E.	613–618
Thomas, S. H. L.	355–360
Thorpe, A.	221–227
Thurman, R. G.	675–681
Timpl, R.	683–687
Topping, D. L.	97–106, 501–507
Trimble, R. P.	97–106
Tyler, J.	177–180
Vaes, G.	643–650
Van Der Molen, H. J.	33–38
Wade, A.	509–517
Wallace, D. M.	277–282
Waring, A. J.	379–389
Warnock, R.	51–57
Waters, D.	717–719
Weiner, S.	157–161
Weisman, Y.	157–161
White, J. O.	465–468
Williams, G.	181–184
Williams, K. E.	519–526
Wisher, M. H.	355–360
Wright, B. E.	581–588, 589–597
Yeoman, M. M.	215–219
Yokota, A.	189–192
Yoshida, M.	427–430
Yu, P.	701–704
Zammit, V. A.	313–322
Ziboh, V. A.	283–290

Index of Subjects

Acanthamoeba castellanii
chemiluminescence 149–156
Acetate
fatty acid-synthesis substrate 565–569
Acetoacetyl-coenzyme A thiolase
neonatal-rat brain 169–172
N-Acetyl-L-aspartate
carbon transport 539–546
rat brain mitochondria 539–546
Acetyl-coenzyme A carboxylase
adrenaline 23–32
epididymal adipose tissue 23–32
N-Acetylglucosamine phosphate
transfer to dolichol monophosphate 391–397
Acid phosphatase
white mustard 367–377
Acidosis
ischaemic heart 547–554
Adenine nucleotides
$NADP^+$-dependent dehydrogenases 675–681
NADPH–cytochrome *c* reductase 675–681
perfused liver 635–642
Adenosine 3′:5′-cyclic monophosphate
chicken erythrocytes 575–579
regulation of platelet function 651–661
ribosomal-protein phosphorylation 233–244
Adenosine monophosphate aminohydrolase
skeletal-muscle contraction 173–176
Adenylate cyclase
activation by hormone receptors 253–260
Adipocytes
insulin action 355–360
obese (*ob*/*ob*) mouse 107–112
pyruvate dehydrogenase 59–62
Adipose tissue
acetyl-coenzyme A carboxylase 23–32
glycogen synthase 229–232
Adrenaline (epinephrine)
acetyl-coenzyme A carboxylase 23–32
Agglutinin
castor-bean 721–723
Albumin
plasma Zn^{2+} carrier 627–633
2-Allyl-2-isopropylacetamide
cytochrome *P*-450 haem degradation 481–489
Alveolar macrophages
prostaglandin secretion 345–354
δ-(L-α-Aminoadipyl)-L-cysteinyl-D-valine
conversion to isopenicillin N-like antibiotic 427–430
δ-(L-α-Amino[4,5-^{3}H]adipyl)-L-cysteinyl-D-[4,4-^{3}H]-valine
incorporation into isopenicillin N 421–426
2-Aminophenol
UDP-glucuronyltransferase 705–707
AMP aminohydrolase, *see* adenosine monophosphate aminohydrolase
Androgen
spermine-binding protein 431–440
Angiotensin-converting enzyme
reactivity of proangiotensin-like substance 7–12
Angiotensinogen, *see* Renin substrate
Antibodies
collagen 683–687
platelet aggregation 683–687
Anti-inflammatory drugs
ethynyl groups 509–517
Arachidonic acid
release from phosphatidylcholine 283–290
Articular chondrocytes
diphosphonates 203–214
Ascorbate oxidase
white mustard 367–377
Asialo-transferrin
interactions with liver 399–407

Bean, castor, *see* Castor bean
Benzene
cleavage of C–P bond of phenylphosphonates 453–455
Bicarbonate
mammalian glutamine metabolism 599–606
Bilirubin
UDP-glucuronyltransferase 705–707
Blood
enterokinase leakage 619–626
Blowfly (*Calliphora vomitoria*)
brain insulin-like material 221–227
BPP_{9a}, *see* Bradykinin-potentiating peptide 9a
Bradykinin-potentiating peptide 9a
fate after intravenous injection 713–716
Brain
N-acetyl-L-aspartate synthesis 539–546
blowfly 221–227
insulin-like material 221–227
ketone-body-metabolizing enzymes 169–172
neonatal hypothyroidism 169–172
tryptophan metabolism 165–168

Calcitonin
1α,25-dihydroxycholecalciferol synthesis 269–275
Calcium ion transport
membrane phosphopolypeptide 651–661
Calcium ions
drug glucuronidation 709–711
ethanol oxidation 709–711
hormonal regulation in molluscs 157–161
Calliphora vomitoria, *see* Blowfly
Calorimetry
carbohydrate metabolism 501–507
Carbohydrate metabolism
rat hepatocytes 501–507
Carbon dioxide
release during glycine oxidation 457–460
Carbon–phosphorus bond
bacterial cleavage of phenylphosphonates 453–455
Carbon tetrachloride
cytochrome *P*-450 haem degradation 481–489
Carbon transport
mitochondrial/cytosolic 539–546
Cartilage
catabolic factor from synovium 177–180
degradation 643–650

Caseins
primary translation products 261–267
Castor bean (*Ricinus communis*)
agglutinin 721–723
Castration
spermine-binding activity 431–440
Catalase
Acanthamoeba castellanii 149–156
Cell culture
liver, *see* Liver cell culture
Cell cycle
synchronized hepatoma cells 133–141
Cells
liver parenchymal, *see* Liver parenchymal cells
median neurosecretory 221–227
Cephalosporium acremonium
δ-(L-α-aminoadipyl)-L-cysteinyl-D-valine 427–430
isopenicillin-like antibiotic 427–430
Cerebral cortex
ribosomal-protein phosphorylation 233–244
Chemiluminescence
Acanthamoeba castellanii 149–156
Chloroplasts
cytochrome *b*-563 39–44
linoleate and α-linolenate synthesis 571–574
long-chain-fatty acid synthesis 193–202, 565–569
Cholecalciferol
conversion into 25-hydroxycholecalciferol 491–499
metabolism in land snails 157–161
Cholesterogenesis
liver 1–6
Cholesterol
very-low-density lipoprotein 1–6
Cholic acid
degradation by *Pseudomonas* 613–618
Chondrocytes
articular, *see* Articular chondrocytes
Chondroitin sulphate
cartilage catabolic factor 177–180
Chromatin
transcription 331–343
Collagen
degradation 643–650
platelet aggregation 683–687
Collagenase
macrophage–fibroblast interaction 643–650
Compound SQ 20881, *see* Bradykinin-potentiating peptide 9a
Computer models
triacylglycerol metabolism 73–81
Cortisol
steroid-binding capacity 361–365
Cryoenzymology
cytochrome *c* oxidase 555–563
Cyanide
respiration insensitive to 149–156
Cyclic AMP, *see* Adenosine 3′:5′-cyclic monophosphate
Cyclic GMP, *see* Guanosine 3′:5′-cyclic monophosphate
Cyclic electron flow
chloroplast 39–44
Cycloheximide
Leydig-cell steroidogenesis 33–38
protein metabolism 323–330
Cytochrome *b*-563
chloroplast 39–44
ferredoxin 39–44
Cytochrome *c* oxidase
Acanthamoeba castellanii 149–156
carbon monoxide 555–563
oxygen affinity 555–563
oxygenated intermediates 555–563
Schizosaccharomyces pombe 972h⁻ 555–563
Cytochrome *o*
Escherichia coli 379–389
low-temperature studies 379–389
reaction with oxygen 379–389
Cytochrome *P*-450
cholecalciferol hydroxylation 491–499
degradation of haem moiety 481–489
nicotinamide 461–463
Cytoplasmic membrane
Escherichia coli 45–50
synthesis 45–50
Cytosol
carbon transport 539–546
glutamine synthetase 477–480
[NADPH]/[NADP⁺] ratio 697–700

Datura stramonium, *see* Thorn-apple
Dehydrogenases, NADP⁺-dependent, *see* NADP⁺-dependent dehydrogenases
O-Demethylation
p-nitroanisole 675–681
Density labelling
proteins 367–377
Deoxyribonucleic acid
tri-iodothyronine administration 143–148
Desferrioxamine
hydroxyl-radical formation 469–472
lipid peroxidation 469–472
Diabetes
obese (*ob*/*ob*) mouse 107–112
Diacylgalactosylglycerol
synthesis 571–574
Diacylglycerol
synthesis 571–574
2,5-Dibromo-6-isopropyl-3-methyl-*p*-benzoquinone, *see* Dibromothymoquinone
Dibromothymoquinone (2,5-dibromo-6-isopropyl-3-methyl-*p*-benzoquinone)
chemiluminescence 149–156
Dibutyryladenosine 3′:5′-cyclic monophosphate
Leydig-cell steroidogenesis 33–38
Dichloromethanediphosphonate
articular chondrocytes 203–214
Dictyostelium discoideum, *see* Slime mould
5α-Dihydrotestosterone
spermine-binding activity 431–440
1α,25-Dihydroxycholecalciferol
calcitonin-stimulated synthesis 269–275
Dimethyl Methylene Blue
chondroitin sulphate assay 177–180
Diphosphonates
articular chondrocytes 203–214
Dolichol
glycoprotein glycosylation 113–123

Dolichol monophosphate
glycosyl transfer 391–397
Drug glucuronidation
hepatocytes 709–711
Drug metabolism
perfused rat liver 675–681

Elasmobranch fish
fat and ketone-body metabolism 313–322
Electron microscopy, immuno-, *see* Immuno-electron microscopy
Electron translocation
carrier-mediated 125–131
liposomes 125–131
Embryonic development
erythrocyte nuclear polyamines 607–612
Endoplasmic reticulum
glycosyl transfer 391–397
Energy supply
liver 635–642
Enterohepatic circulation
biphenyl-4-ylacetic acid 509–517
Enterokinase
leakage into blood 619–626
Enzymes
fat-metabolizing, *see* Fat-metabolizing enzymes
ketone-body-metabolizing, *see* Ketone-body-metabolizing enzymes
lysosomal, *see* Lysosomal enzymes
Epididymis
acetyl-coenzyme A carboxylase 23–32
Epinephrine, *see* Adrenaline
Erythrocytes
cyclic AMP 575–579
nuclear polyamines 607–612
Escherichia coli
cytochrome *o* 379–389
cytoplasmic-membrane synthesis 45–50
nitrate reductase 45–50
P_i+K^++H^+-linked transport 13–21
Estrogen receptor, *see* Oestrogen receptor
Ethanol
chronic administration 165–168
oxidation in hepatocytes 709–711
palmitate metabolism 83–88, 89–95
perfused liver 97–106
Ethynyl group oxidation
4-ethynylbiphenyl 509–517
4-Ethynylbiphenyl
oxidation of ethynyl group 509–517
Extensor-digitorum-longus muscle
protein metabolism 323–330

Fat-metabolizing enzymes
fish starvation 313–322
Fatty acids
desaturation 571–574
fish starvation 313–322
free, *see* Fatty acids, non-esterified
long-chain, *see* Long-chain fatty acids
non-esterified 1–6
Ferredoxin
chloroplast 39–44
Ferricyanide
liposomes containing 125–131
Fibroblasts
interaction with macrophages 643–650
Fission yeast (*Schizosaccharomyces pombe* 972h$^-$)
cytochrome oxidase 555–563
Food deprivation
adipose-tissue glycogen synthase 229–232
Fructose
carbohydrate metabolism 501–507
heat production 501–507
substrate cycling 501–507

Galactolipid
fatty acid synthesis 571–574
Gluconeogenesis
methylmalonic acid 717–719
Glucose
blood concentrations 313–322
cytosolic [NADPH]/[$NADP^+$] ratio 697–700
partial aerobic fermentation 409–419
transfer to dolichol monophosphate 391–397
Glucose output
liver 635–642
Glucuronidation
drugs, *see* Drug glucuronidation
Glutamate
transport in *Staphylococcus aureus* 441–449
Glutamine
metabolism in mammals 599–606
Glutamine synthetase
inhibition by manganous ions 477–480
rat liver cytosol 477–480
Glycine
mitochondrial oxidation 457–460
Glycogen
ischaemic heart 547–554
Glycogen synthase
adipose tissue 229–232
Glycoproteins
glycosylation 113–123
Glycosyl transfer
liver 391–397
Glycosylation
glycoprotein 113–123
Golgi complex
hepatoma cells 133–141
Growth hormone, *see* Somatotropin
Guanine nucleotides
adenylate cyclase activation 253–260
Guanosine 3′:5′-cyclic monophosphate
ribosomal-protein phosphorylation 233–244

Haem
degradation of cytochrome *P*-450 481–489
hepatic parenchymal cells 689–694
Haem oxygenase
liver 481–489
Heart
ischaemic 547–554
Heat production
rat hepatocytes 501–507

Hepatocytes
carbohydrate metabolism 501–507
drug glucuronidation 709–711
enterokinase 619–626
ethanol oxidation 709–711
glutamine metabolism 599–606
methylmalonic acid 717–719
Hepatoma cells
cell cycle 133–141
Hormone receptors
adeylate cyclase activation 253–260
Hydrogen ions
ischaemic heart 547–554
Hydroxyl radicals
formation from superoxide 469–472
Hydroxyapatite-formation inhibitors
structure–activity relationship 181–184
3-Hydroxybutyrate dehydrogenase
neonatal-rat brain 169–172
25-Hydroxycholecalciferol
rat liver 491–499
Hydroxycortisone, *see* Cortisol
1-Hydroxyethane-1,1-diphosphonate
articular chondrocytes 203–214
25-Hydroxylation
cholecalciferol 491–499
3-Hydroxy-3-methylglutaryl-coenzyme A reductase
liver 1–6
25-Hydroxyvitamin D, *see* 25-Hydroxycholecalciferol
Hyperglycaemia
obese (*ob*/*ob*) mouse 107–112
Hyperinsulinaemia
obese (*ob*/*ob*) mouse 107–112
Hypophysectomy
liver nuclear RNA synthesis 669–674
Hypothalamus
oestrogen receptor 465–468
Hypothyroidism
neonatal 169–172

^{125}I-labelled protein
hydrolysis by yolk sacs 519–526
Immunocytochemistry
thorn-apple lectin 215–219
Immuno-electron microscopy
platelet aggregation 683–687
Inhibitors, hydroxyapatite-formation, *see* Hydroxyapatite-formation inhibitors
Insulin
action on adipocytes 355–360
analogues 355–360
anti-lipolytic effects 355–360
lipogenesis 107–112
lipogenic effects 355–360
lipolysis 107–112
muscle protein metabolism 323–330
protein metabolism 323–330
release by 4-methyl-2-oxopentanoate 303–311
Insulin receptor
lipolysis and lipogenesis 355–360
Insulin-like material
blowfly brain 221–227
Intestine
small, *see* Small intestine
zinc absorption 627–633
Ionophore A23187
phosphorylated platelet proteins 651–661
Ionophores
carrier-mediated electron translocation 125–131
Iron
hydroxyl-radical formation 469–472
Ischaemia
acidosis 547–554
Islets of Langerhans, *see* Pancreatic islets
Isoelectric points
proteins 367–377
Isopenicillin-like antibiotic
conversion of δ-(L-α-aminoadipyl)-L-cysteinyl-D-valine 427–430
Isopenicillin N
incorporation of δ-(L-α-amino[4,5-^{3}H]adipyl)-L-cysteinyl-D-[4,4-^{3}H]valine 421–426

Ketone bodies
fish starvation 313–322
Ketone-body-metabolizing enzymes
development in rat brain 169–172
Kidney
prostaglandin metabolism 51–57
Kidney-cortex tubules
glutamine metabolism 599–606

Lactate
uptake in liver 635–642
Lactation
small-intestinal enzyme adaptation 245–251
Land snails (*Levantina hiersolyma* and *Theba pisana*)
cholecalciferol metabolism 157–161
Lectin
thorn-apple 215–219
Levantina hiersolyma, *see* Land snails
Leydig cells
steroidogenesis 33–38
Linoleate
synthesis in chloroplasts 571–574
trans,*trans*-Linoleate
prostaglandins 701–704
α-Linolenate
synthesis in chloroplasts 571–574
Lipid peroxidation
inhibition by desferrioxamine 469–472
liver 481–489
Lipogenesis
adipocytes 107–112
Lipolysis
adipocytes 107–112
Lipoproteins
plasma 1–6
very-low-density 1–6
Liposomes
electron translocation 125–131
ferricyanide-containing 125–131

Liver
asialo-transferrins 399–407
cholecalciferol conversion 491–499
cytochrome *P*-450 haem degradation 481–489
effect of ethanol 97–106
energy supply 635–642
fatty 89–95
glucose output 635–642
glutamine synthetase 477–480
glycosyl transfer
haem secretion 689–694
3-hydroxy-3-methylglutaryl-coenzyme A reductase 1–6
lactate and oxygen uptake 635–642
p-nitroanisole *O*-demethylation 675–681
nuclear RNA synthesis 669–674
nuclear tri-iodothyronine receptors 143–148
palmitate metabolism 63–71, 73–81, 83–88, 89–95
perfused 63–71, 73–81, 83–88, 89–95, 97–106
redox state of NAD(P) couples 165–168
renin-substrate synthesis 7–12
triacylglycerol-containing subcellular fractions 63–71
tryptophan metabolism 165–168
UDP-glucuronyltransferase activity 705–707
Liver cell culture
maintenance of NAD^+ by nicotinamide 461–463
Liver parenchymal cells
haem secretion 689–694
Long-chain fatty acids
synthesis in chloroplasts 193–202, 565–569
Low-temperature studies
cytochrome *o* 379–389
Lung
prostaglandin metabolism 51–57
Luteinizing hormone, *see* Lutropin
Lutropin
Leydig-cell steroidogenesis 33–38
Lymphocytes
activation 277–282
Lysosomal enzymes
prostaglandin secretion 345–354
Lysosomes
hepatoma cells 133–141
^{125}I-labelled-protein degradation 519–526

Macrophages
alveolar, *see* Alveolar macrophages
interaction with fibroblasts 643–650
'Malic' enzyme
NAD(P)$^+$-dependent, *see* NAD(P)$^+$-dependent 'malic' enzyme
Trypanosoma cruzi 409–419
Manganous ions
inhibition of glutamine synthetase 477–480
Mannose
transfer to dolichol monophosphate 391–397
Membranes
Ca^{2+} transport 651–661
cytoplasmic, *see* Cytoplasmic membrane
mitochondrial inner, *see* Mitochondrial inner membrane
Messenger ribonucleic acid
purification 277–282
translation 277–282
Methylmalonic acid
hepatic gluconeogenesis 717–719
4-Methyl-2-oxopentanoate
insulin release 303–311
pancreatic islets 291–301
Microsomal fraction
cholecalciferol conversion 491–499
liver 675–681
Milk proteins
casein primary translation products 261–267
Mitochondria
N-acetyl-L-aspartate synthesis 539–546
carbon transport 539–546
glycine oxidation 457–460
glycosyl transfer 391–397
respiration 149–156
small-intestinal-mucosal 185–188
spinach 457–460
translocase 539–546
Mitochondrial inner membrane
binding of castor-bean agglutinin 721–723
Mixed-function oxidation
liver 675–681
Molecular weight
proteins 367–377
Molluscs
cholecalciferol metabolism 157–161
Mono-oxygenases
cholecalciferol 25-hydroxylation 491–499
liver 675–681
Mucosa
small-intestinal 185–188
Muscle
extensor digitorum longus, *see* Extensor-digitorum-longus muscle
protein metabolism 323–330
skeletal, *see* Skeletal muscle
soleus, *see* Soleus muscle
Mustard, white, *see* White mustard (*Sinapis alba*)
Myxomycete, *see* Slime mould

NAD^+, *see* Nicotinamide–adenine dinucleotide
$NADP^+$-dependent dehydrogenases
inhibition by adenine nucleotides 675–681
NAD(P)$^+$-dependent 'malic' enzyme
small-intestinal-mucosal mitochondria 185–188
NADPH–cytochrome *c* reductase
inhibition by adenine nucleotides 675–681
Nicotinamide
NAD^+ in liver cell culture 461–463
Nicotinamide–adenine dinucleotide
cytochrome *P*-450 461–463
rat liver cell culture 461–463
Nicotinamide–adenine dinucleotide phosphate
ratio of reduced to oxidized forms in cytosol 697–700
Nicotinamide–adenine dinucleotide (phosphate) couples
redox state 165–168
Nitrate reductase
Escherichia coli 45–50
white mustard 367–377
p-Nitroanisole
O-demethylation in liver 675–681
Nitrogen dioxide exposure
prostaglandin metabolism 51–57

Nuclear magnetic resonance
phosphorus, *see* Phosphorus nuclear magnetic resonance
Nucleus
oestrogen receptor 331–343
polyamines 607–612
RNA synthesis 669–674
tri-iodothyronine receptors 143–148

Obese (*ob/ob*) mouse
adipocytes 107–112
Oestrogen receptor
development changes 465–468
hen nuclear 331–343
hypothalamus 465–468
sexual differentiation 465–468
Oligosaccharides
lipid-linked 113–123
Ornithine aminotransferase
turnover 473–476
Oxidases
bacterial 379–389
Oxidation
glycine 457–460
Oxidative phosphorylation
3,5,3′-tri-iodo-L-thyronine 527–538
3-Oxo acid coenzyme A transferase
neonatal-rat brain 169–172
Oxygen
cytochrome *o* 379–389
cytochrome oxidase 555–563
singlet, *see* Singlet oxygen
Oxygen exposure
prostaglandin metabolism 51–57
Oxygen uptake
glycine oxidation 457–460
liver 635–642
slime mould (*Dictyostelium discoideum*) 581–588

Palmitate
pyruvate dehydrogenase inactivation 59–62
Palmitate metabolism
effect of ethanol 83–88, 89–95
liver 63–71, 73–81, 83–88, 89–95
Pancreatic islets
cytosolic [NADPH]/[$NADP^+$] ratio 697–700
insulin release 303–311
4-methyl-2-oxopentanoate metabolism 291–301
Peptide 9a, bradykinin-potentiating, *see* Bradykinin-potentiating peptide 9a
Peptides, signal, *see* Signal peptides
Peroxidation
lipid, *see* Lipid peroxidation
pH
intracellular 635–642
Phagocytosis
prostaglandin secretion 345–354
L-Phenylalanine ammonia-lyase
white mustard 367–377
Phenylphosphonates
cleavage of C–P bond 453–455
Phorbol 12-myristate 13-acetate
steroid-binding capacity 361–365
Phosphatase, acid *see* Acid phosphatase

Phosphate
linked transport with K^+ and H^+ 13–21
Phosphatidylcholine
arachidonic acid release 283–290
Phosphocreatine
ischaemic heart 547–554
Phospholipase A
skin 283–290
Phosphopolypeptide
Ca^{2+} transport 651–661
Phosphorus nuclear magnetic resonance
ischaemic-heart acidosis 547–554
Phosphorylation
oxidative, *see* oxidation phosphorylation
platelet proteins 651–661
ribosomal-subunit multiple proteins 233–244
Photosynthesis
spinach chloroplasts 193–202
Photosynthetic electron transport
chloroplast 39–44
Phytohaemagglutinin
lymphocyte activation 277–282
Plasma
lipoproteins 1–6
Zn^{2+} carrier 627–633
Platelets
collagen-induced aggregation 683–687
phosphorylated proteins 651–661
P/O ratio
3,5,3′-tri-iodo-L-thyronine 527–538
Polyamines
chick-embryo development 607–612
spermine binding 431–440
Porphyria
haem secretion in liver 689–694
Postnatal development
UDP-glucuronyltransferase 705–707
Potassium ions
linked transport with P_i and H^+ 13–21
Pregnancy
small-intestinal enzyme adaptation 245–251
Primary translation products
initiation and processing 261–267
Proangiotensin
synthesis from renin substrate 7–12
Prostaglandin E_1
phosphorylated platelet proteins 651–661
Prostaglandin metabolism
kidney 51–57
lung 51–57
nitrogen dioxide exposure 51–57
oxygen exposure 51–57
Prostaglandins
trans,trans-linoleate-fed rats 701–704
secretion 345–354
Prostate, ventral, *see* Ventral prostate
Protein degradation
rates 367–377, 473–476
yolk sacs 519–526
Protein metabolism
insulin 323–330
Protein synthesis
cell-free 277–282
measurement with [^{3}H]puromycin 663–668

Protein turnover
measurement *in vivo* 473–476
Proteinases
neutral 643–650
Proteins
^{125}I-labelled, *see* ^{125}I-labelled protein
isoelectric points 367–377
molecular weights 367–377
platelets 651–661
spermine-binding, *see* Spermine-binding protein
Proteoglycan
degradation 643–650
Proteolysis
intralysosomal 519–526
Proton-linked transport
Staphylococcus aureus 441–449
Protons
linked transport with P_i and K^+ 13–21
Pseudomonas sp. N.C.I.B. 10590
cholic acid degradation 613–618
Purine nucleotides
3,5,3′-tri-iodo-thyronine 527–538
[^{3}H]Puromycin
protein-synthesis measurement 663–668
Pyrazole
chronic ethanol administration 165–168
Pyruvate carboxylase
neonatal-rat brain 169–172
Pyruvate dehydrogenase
adipocyte 59–62
inactivation by palmitate 59–62
neonatal-rat brain 169–172

Receptors
enterokinase clearance 619–626
insulin, *see* Insulin receptor
oestrogen, *see* Oestrogen receptor
Redox state
NAD(P) couples 165–168
Regulator proteins
Leydig-cell steroidogenesis 33–38
Renin substrate (angiotensinogen)
synthesis in liver 7–12
Respiration
cyanide-insensitive 149–156
mitochondrial 149–156
Ribonucleic acid
messenger, *see* Messenger ribonucleic acid
synthesis 669–674
Ribonucleic acid polymerase
liver 669–674
Ribosomes
phosphorylation of subunit multiple proteins 233–244
cerebral cortex 233–244
Ricinus communis, *see* Castor bean

Salmo salar, *see* Salmon
Salmon (*Salmo salar*)
calcitonin 269–275
Scald injury
muscle protein metabolism 323–330
Schizosaccharomyces pombe 972h$^-$, *see* Fission yeast
Secretion
prostaglandins 345–354
Shock
perfused liver 635–642
Signal peptides
casein synthesis 261–267
Sinapis alba, *see* White mustard
Singlet oxygen
chemiluminescence 149–156
Skeletal muscle
AMP aminohydrolase 173–176
contraction 173–176
Skin
phospholipase A 283–290
Slime mould (*Dictyostelium discoideum*)
preculmination and aggregation 589–597
tricarboxylic acid cycle 581–588, 589–597
Small intestine
adaptation during pregnancy and lactation 245–251
mucosal mitochondria 185–188
NAD(P)$^+$-dependent 'malic' enzyme 185–188
Snails, land, *see* Land snails
Soleus muscle
protein metabolism 323–330
Somatotropin (growth hormone)
liver nuclear RNA synthesis 669–674
Spermine-binding protein
rat ventral prostrate 431–440
androgen-sensitive 431–440
Spinach (*Spinacia oleracea*)
linoleate and α-linolenate synthesis 571–574
long-chain fatty acid synthesis 193–202, 565–569
mitochondrial glycine oxidation 457–460
Spinacia oleracea, *see* Spinach
Staphylococcus aureus
glutamate transport 441–449
Starvation
muscle protein metabolism 323–330
Steroidogenesis
Leydig cells 33–38
lutropin 33–38
Steroids
binding capacity 361–365
Subcellular fractionation
hepatoma cells 133–141
liver 63–71
Substrate cycling
rat hepatocytes 501–507
Sugar analogues
glycosylation inhibition 113–123
Superoxide
formation of hydroxyl radicals 469–472
Superoxide dismutase
Acanthamoeba castellanii 149–156
Synovium
cartilage catabolic factor 177–180

Teleost fish
fat and ketone-body metabolism 313–322
NNN′N′-Tetramethyl-*p*-phenylenediamine
electron-translocation mediator 125–131
Theba pisana, *see* Land snails
Thorn-apple (*Datura stramonium*)
lectin 215–219

Thyroid hormones
liver nuclear RNA synthesis 669–674
long-term administration 143–148
Trace elements
zinc absorption 627–633
Transcription
chromatin 331–343
Transferrin, asialo-, *see* Asialo-transferrin
Translation
messenger ribonucleic acid 277–282
primary products, *see* Primary translation products
Translocase
mitochondrial 539–546
Transport
carbon, *see* Carbon transport
glutamate 441–449
muscle protein metabolism 323–330
Triacylglycerol
computer model of metabolism 73–81
liver 1–6
liver subcellular fractions 63–71
Tricarboxylic acid cycle
slime mould (*Dictyostelium discoideum*) 581–588, 589–597
Tri-iodothyronine
long-term administration 143–148
3,5,3′-Tri-iodo-L-thyronine
oxidative phosphorylation 527–538
Tri-iodothyronine receptor
liver nucleus 143–148
Triton X-100
glycosyl transfer 391–397
Trypanosoma cruzi
'malic' enzyme 409–419
Tryptophan metabolism
brain 165–168
liver 165–168
Tunicamycin
glycosylation inhibition 113–123

Uridine diphosphate galactose
fatty acid synthesis 571–574
Uridine diphosphate glucuronyltransferase
postnatal development 705–707

Ventral prostate
androgen-sensitive spermine-binding protein 431–440
Vitamin D_3, *see* Cholecalciferol

White mustard (*Sinapis alba*)
nitrate reductase 367–377

Yeast
fission, *see* Fission yeast
Yolk sacs
^{125}I-labelled-protein degradation 519–526

Zinc absorption
perfused rat intestine 627–633